

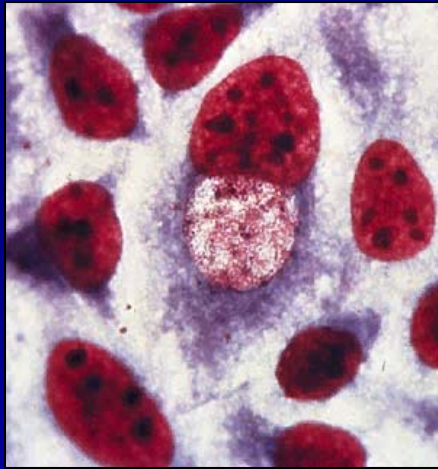
Innovations in Partner Management and Preventing Chlamydia and Gonorrhea Re-infections



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California STD/HIV Prevention
Training Center**

Overview

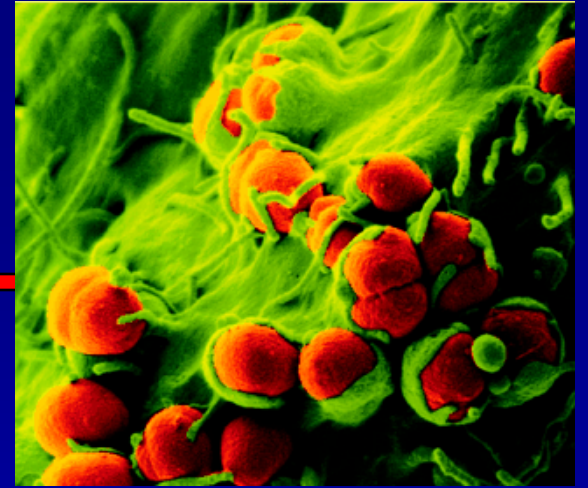
- ❖ Chlamydia and gonorrhea: the basics
- ❖ Screening, testing and treatment
- ❖ Preventing re-infection:
 - Partner management
 - Re-testing recommendations



Chlamydia trachomatis

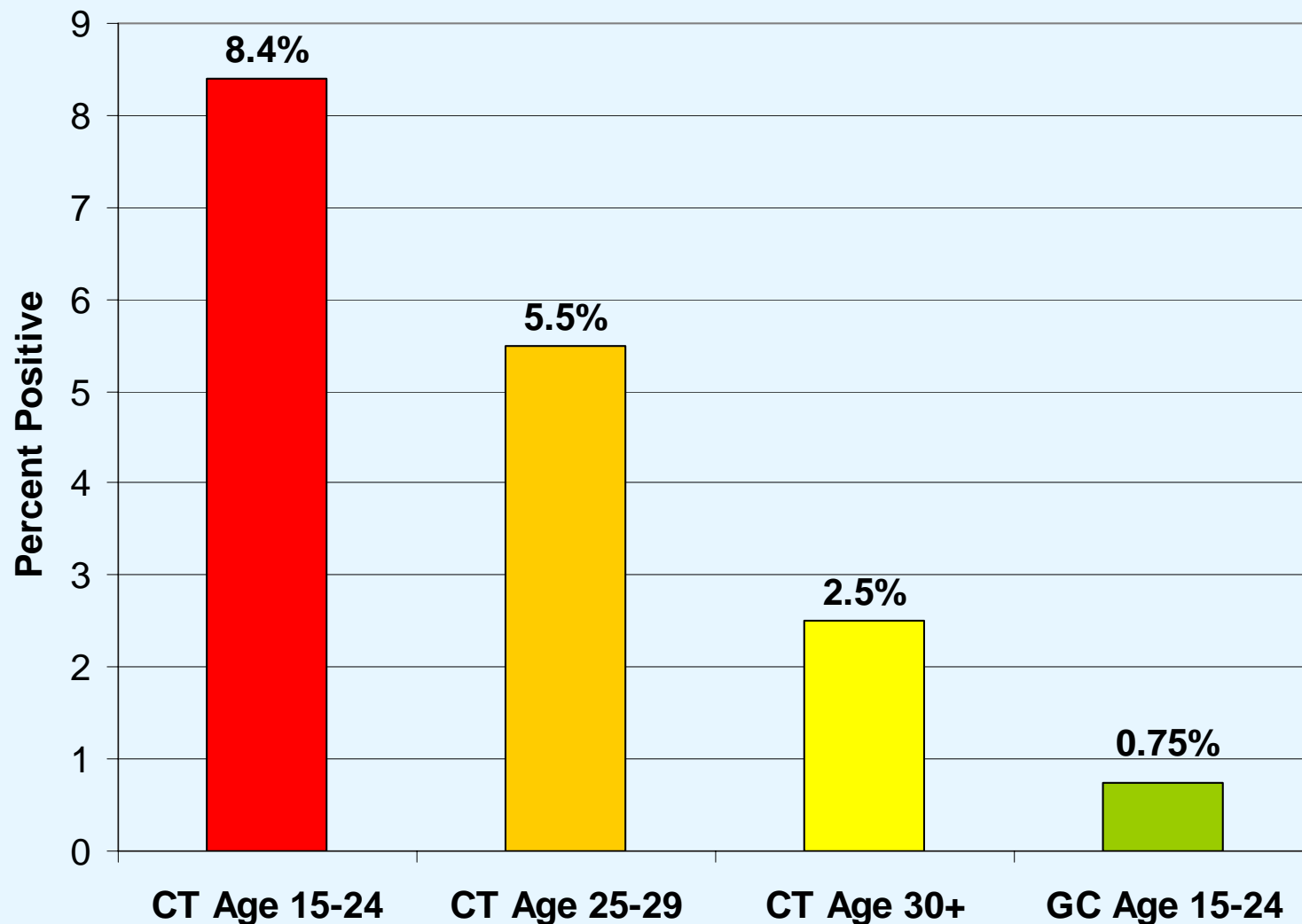
- Intracellular bacterium
- Infects columnar epithelium
- Most common bacterial STD
- Incidence highest among adolescents and young adults
- Causes a variety of clinical syndromes
- Majority of infections are asymptomatic
- Screening decreases prevalence and prevents complications

Neisseria gonorrhoeae

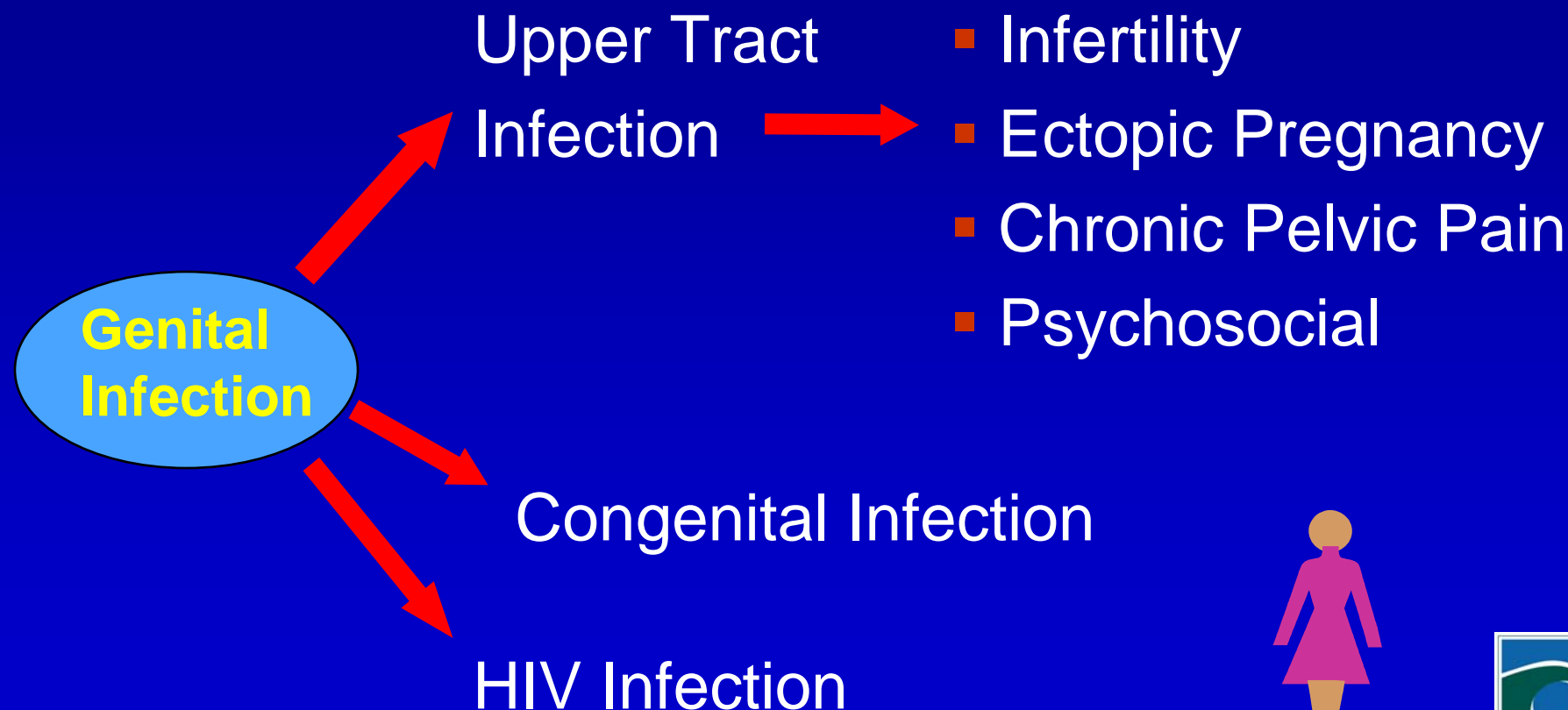


- Gram-negative diplococcus
- Infects non-cornified epithelium
- Second most common bacterial STD
- Incidence highest among adolescents and young adults
- Causes a variety of clinical syndromes
- Many infections are asymptomatic

CT & GC Prevalence Among Women in FP Clinics in Hawaii, 2006

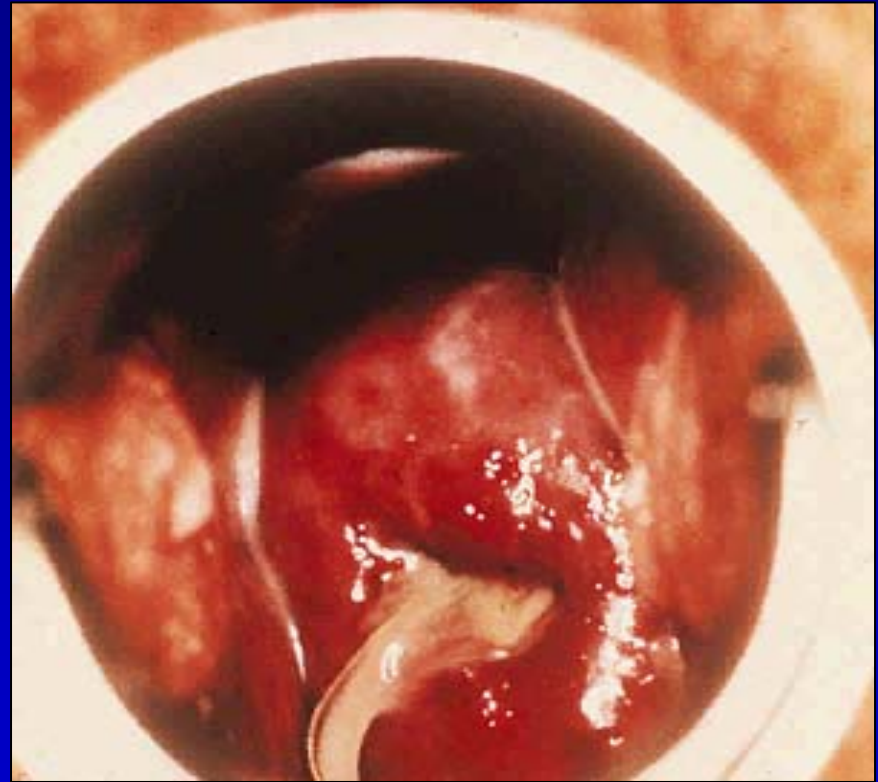


Complications of Chlamydia and Gonorrhea Infections in Women



Clinical Syndromes

Cervicitis



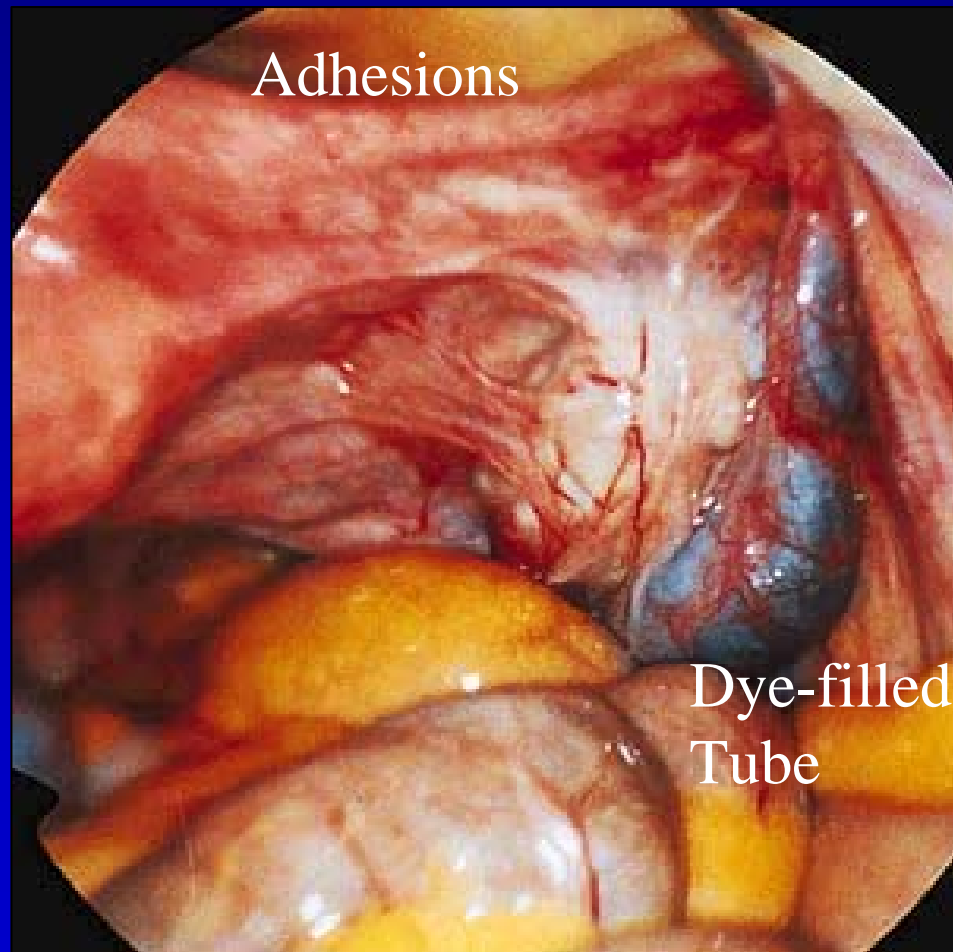
M Mosby *STD Atlas, 1997*

Urethritis



M Mosby *STD Atlas, 1997*

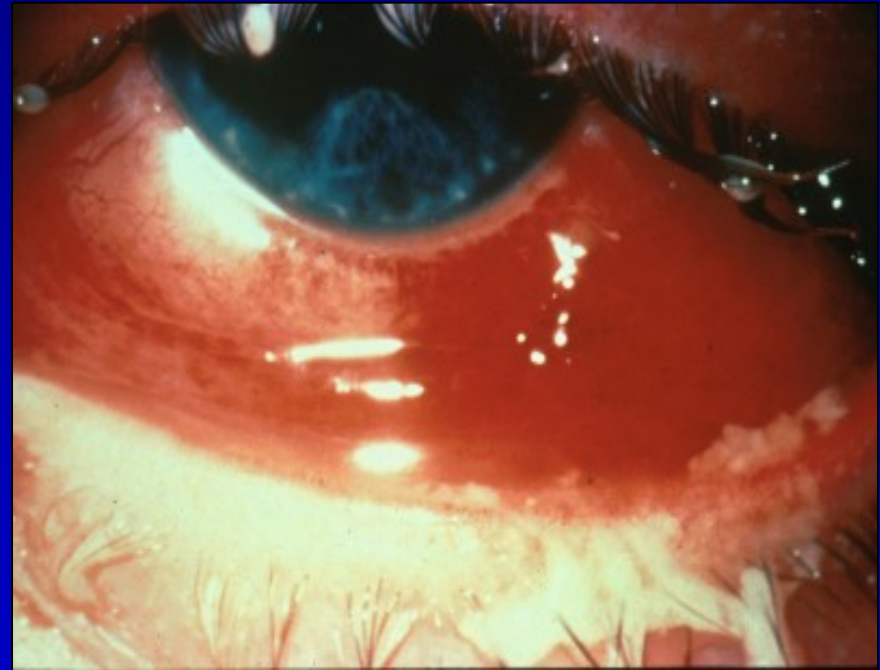
Acute Salpingitis – Laparoscopic View



Epididymitis



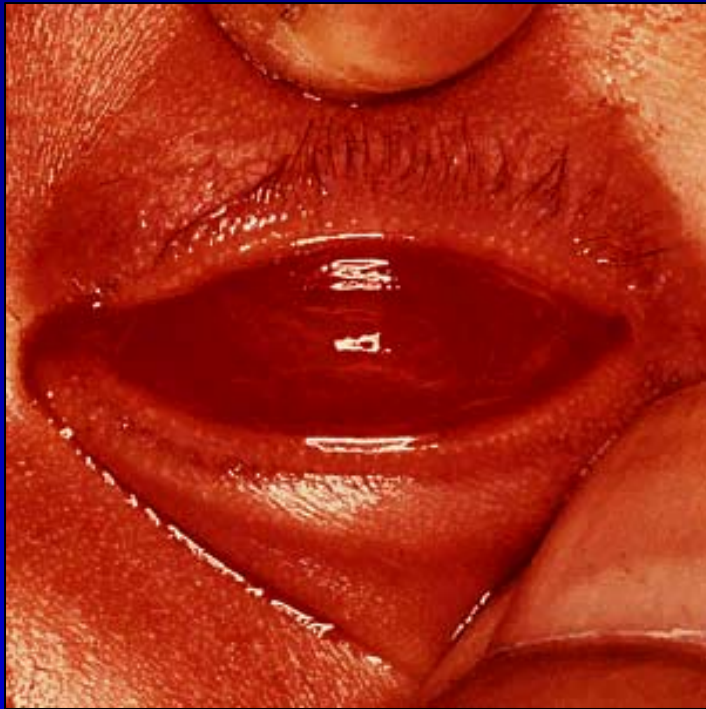
Conjunctivitis in the Adult



Disseminated Gonococcal Infection

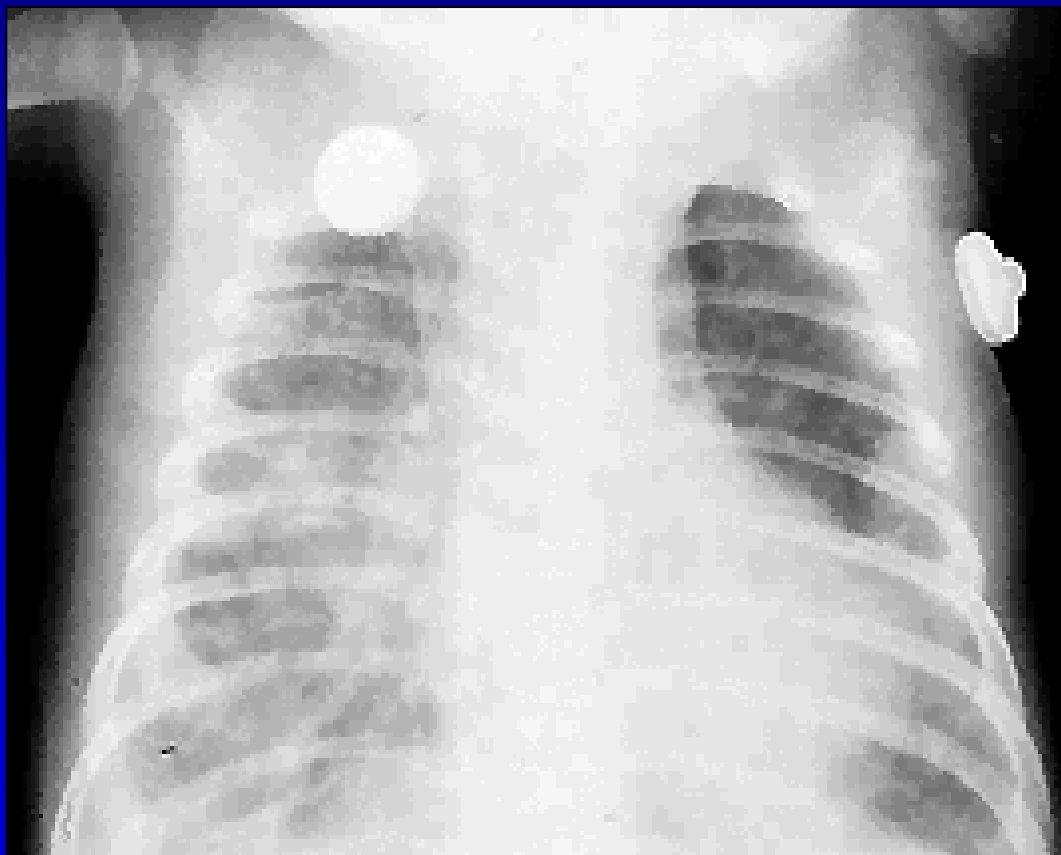


Neonatal Conjunctivitis



M Mosby *STD Atlas, 1997*

Chlamydial Pneumonitis in the Infant

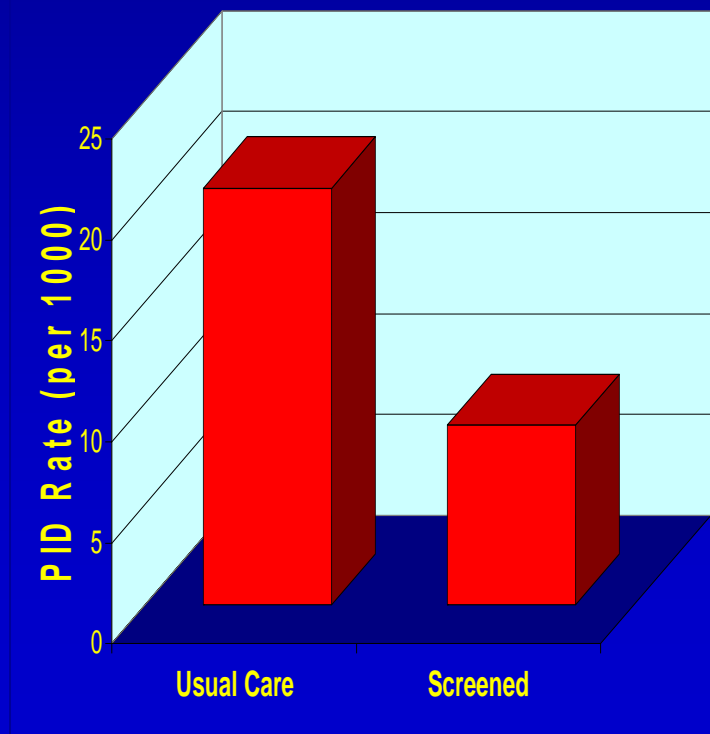


Screening, Testing, and Treatment

CT Screening Prevents PID:

Clinical trial, Seattle HMO, 1990-1992

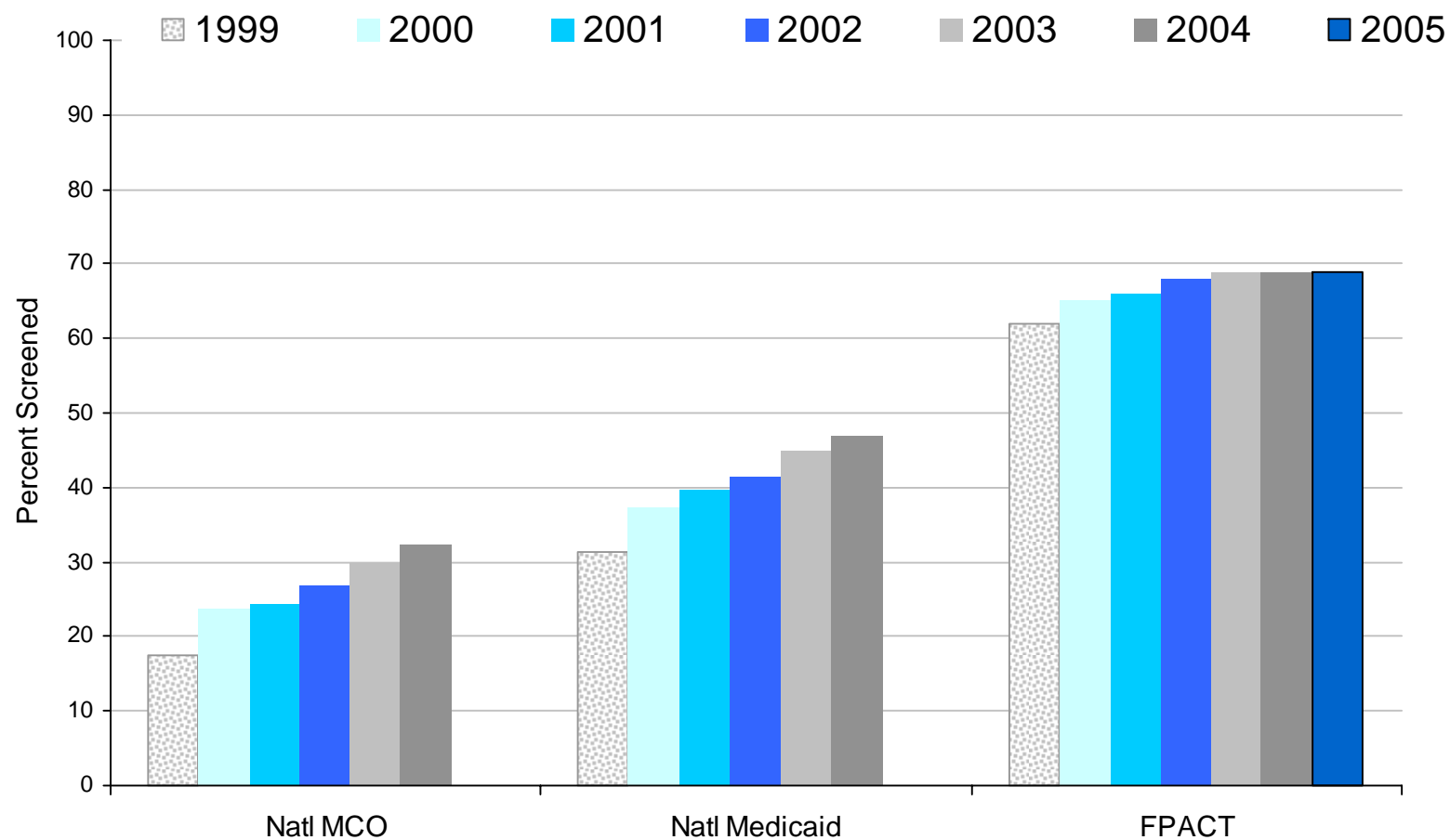
- Randomized controlled trial
- 1009 high risk women 18-34 assigned to intervention (invitation to get tested) & 1598 to usual care



- Among intervention group, 64% were tested and 7% were positive and treated
- Outcome of PID w/i 1-year: 9 cases in screening group, 33 cases in usual care group (RR=0.44 (0.20-0.90))

Scholes et al., NEJM, 1996; 334:1362-6

Estimated Chlamydia Screening Coverage, Females 16-26, 1999-2005

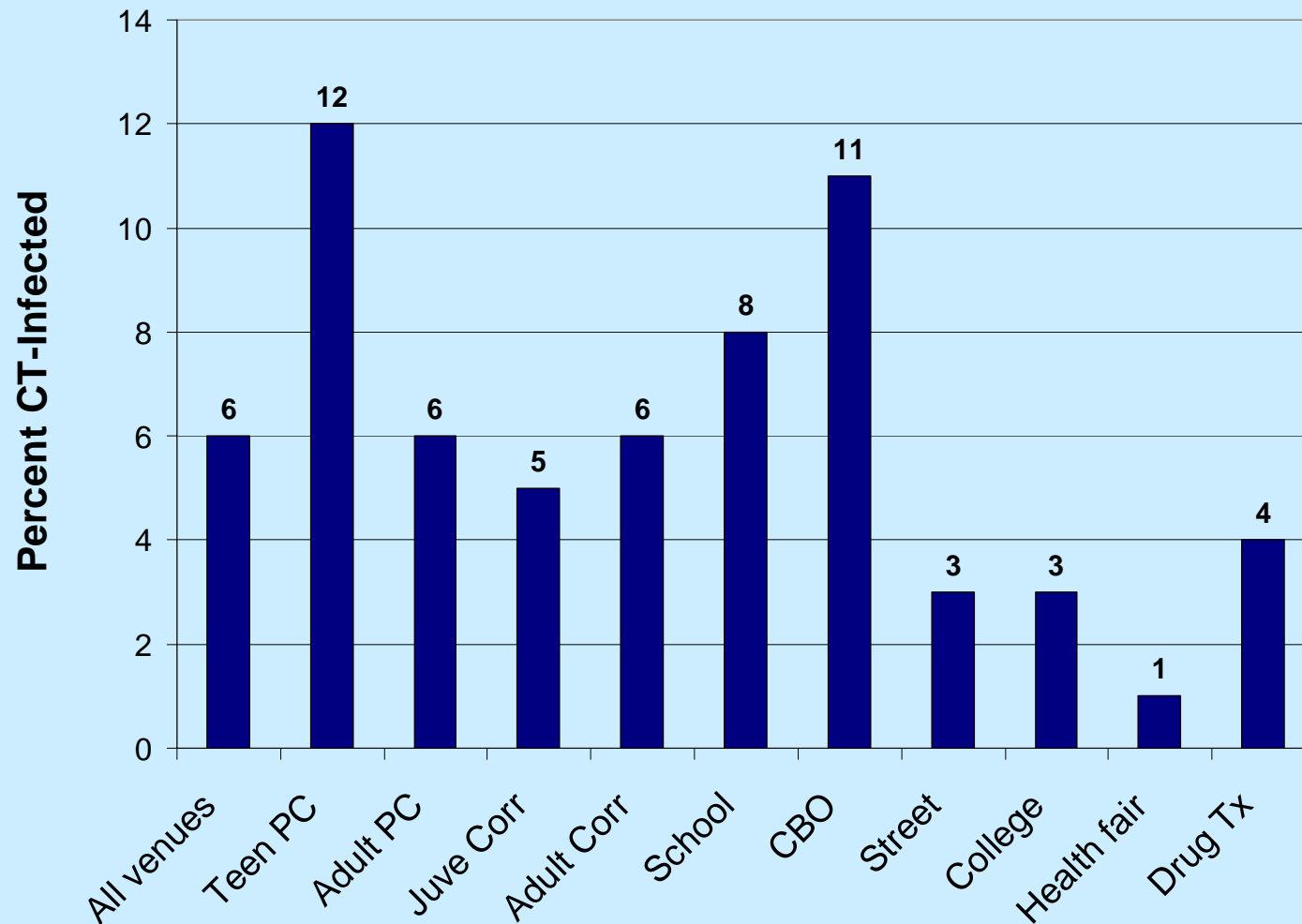


Source: California Chlamydia Action Coalition Report, 2005

What about screening men for chlamydia?

- Urine-based testing is an advantage
- Certain venues have high prevalence: corrections, STD clinics, teen clinics
- Unpublished cost effectiveness analysis demonstrate community and future partner benefits
- No guidelines available

Chlamydia Prevalence among over 22,500 Asymptomatic Men, 4 U.S. Cities, 1999-2003



Schillinger et al., STD 2005; 32:74-7

Current Chlamydia Diagnostic Tests

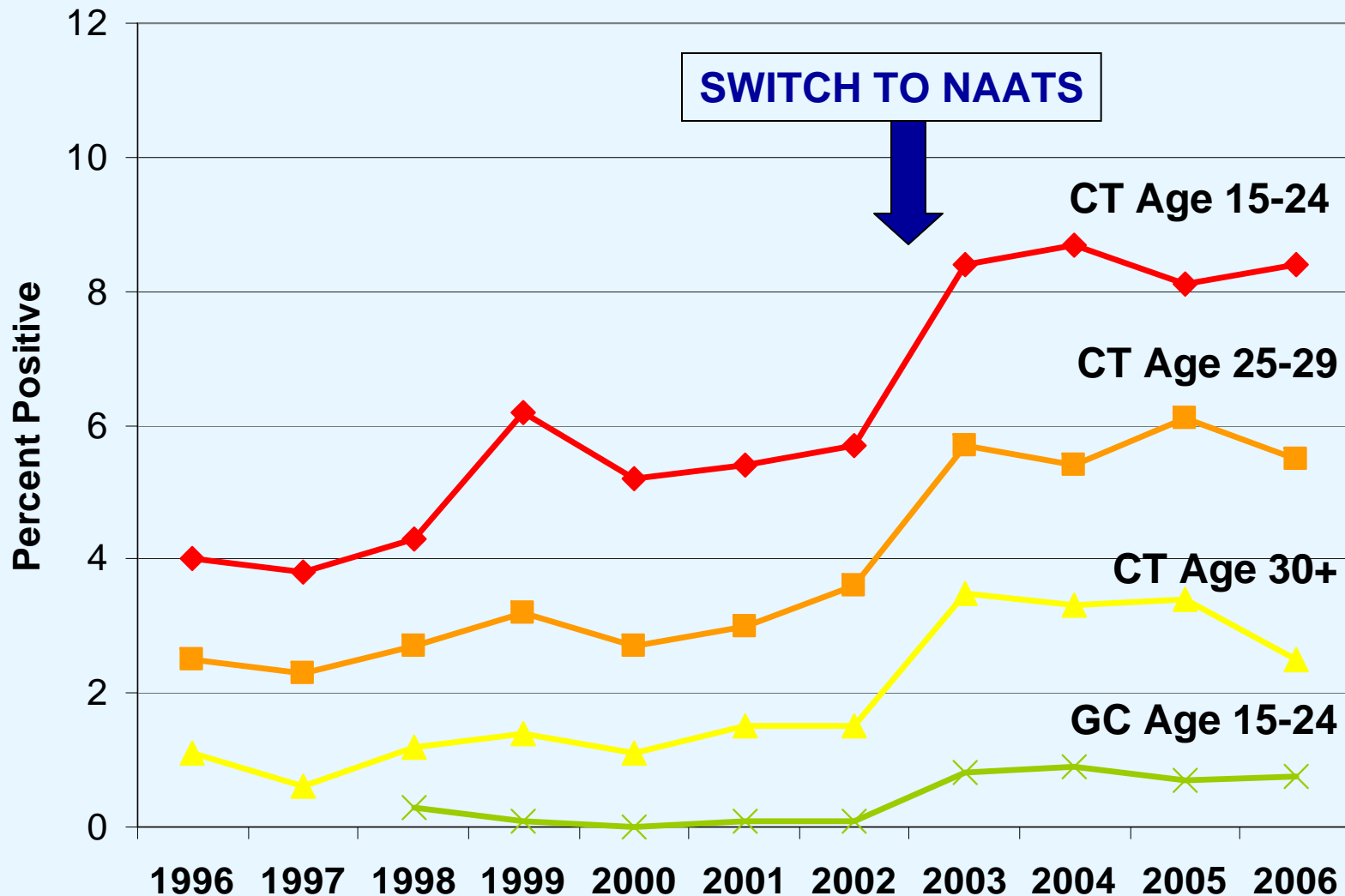
- Molecular Tests
 - ◆ Non-amplified
 - ❖ GenProbe PACE 2
 - ❖ Hybrid Capture 2
 - ◆ Nucleic Acid Amplification Tests (NAATs)
 - ❖ Roche *Amplicor* (PCR)
 - ❖ GenProbe *Aptima* (TMA)
 - ❖ B-D *ProbeTec* (SDA)
- Culture
- Antigen Detection Tests: EIA, DFA

Chlamydia Tests are NOT Created Equal

Test	Sensitivity
EIA	40-60%
DNA probe	40-65%
DFA	50-70%
Culture	50-90%
NAATs *	>90%

* Able to use urine and self-collected vaginal swab specimens

CT & GC Prevalence Among Women in FP Clinics in Hawaii, by Age, 1996-2006



Chlamydia Treatment

Adolescents and Adults

Recommended regimens:

- ◆ Azithromycin 1 g PO x 1
- ◆ Doxycycline 100 mg PO BID x 7 d

No test of cure needed

Recommended regimens in pregnancy:

- ◆ Azithromycin 1 g PO x 1
- ◆ Amoxicillin 500 mg PO TID x 7 d

Test of cure at 3-4 weeks

2006 CDC Guidelines



Chlamydia Lifecycle

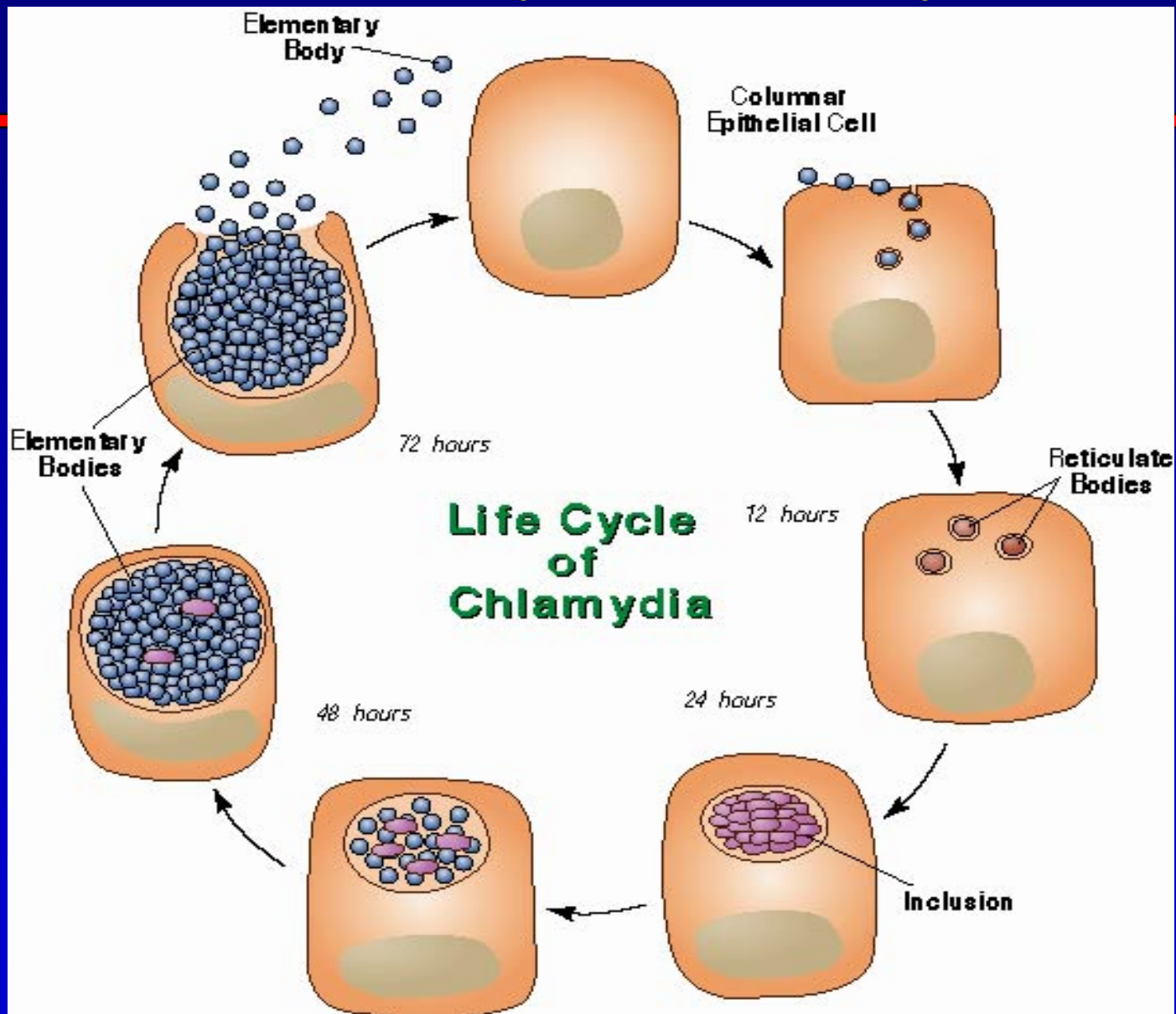
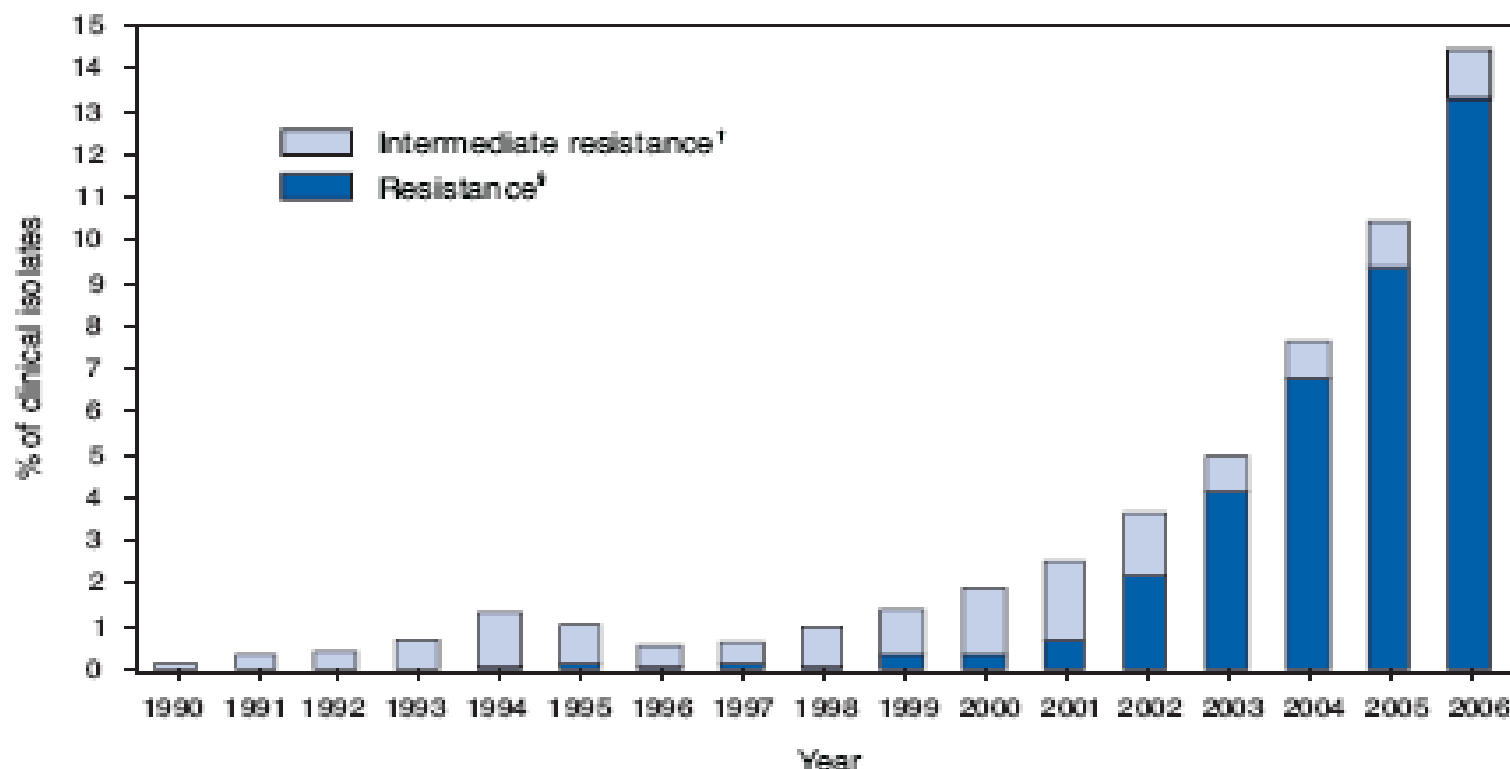


FIGURE. Percentage of *Neisseria gonorrhoeae* isolates with intermediate resistance or resistance to ciprofloxacin, by year — Gonococcal Isolate Surveillance Project, United States, 1990–2006*



* Data for 2006 are preliminary (January–June only).

† Demonstrating ciprofloxacin minimum inhibitory concentrations (MICs) of 0.125–0.500 µg/mL.

§ Demonstrating ciprofloxacin MICs of ≥1.0 µg/mL.

First-Line Gonorrhea Treatment

Uncomplicated Genital/Rectal Infections

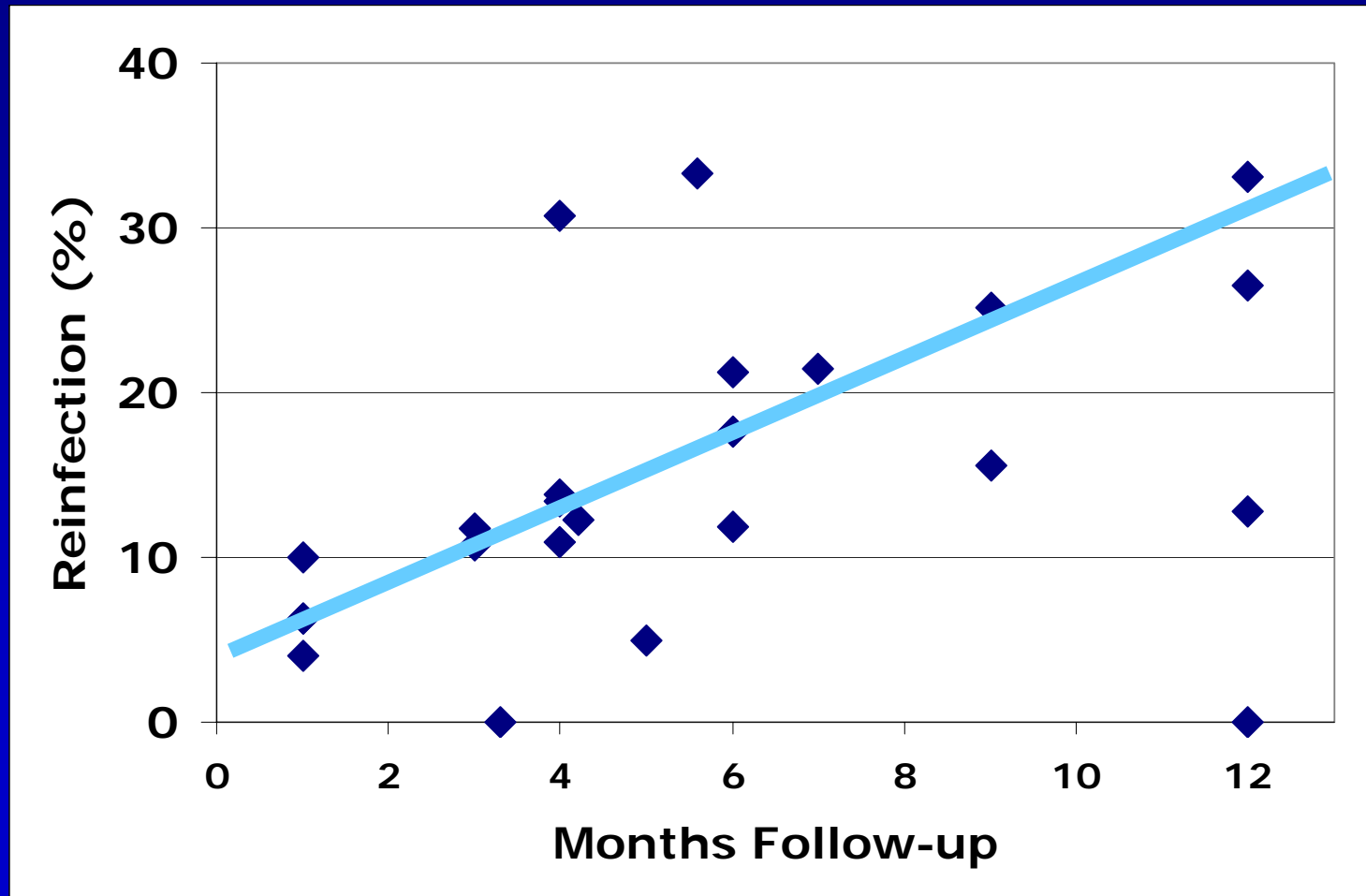
- AVOID fluoroquinolones
- Recommended regimens:
 - ◆ Ceftriaxone 125 mg intramuscularly in a single dose OR
 - ◆ Cefixime 400 mg orally in a single dose
- Co-treat for chlamydia unless ruled out

CDC Guidelines: Updated April 2007



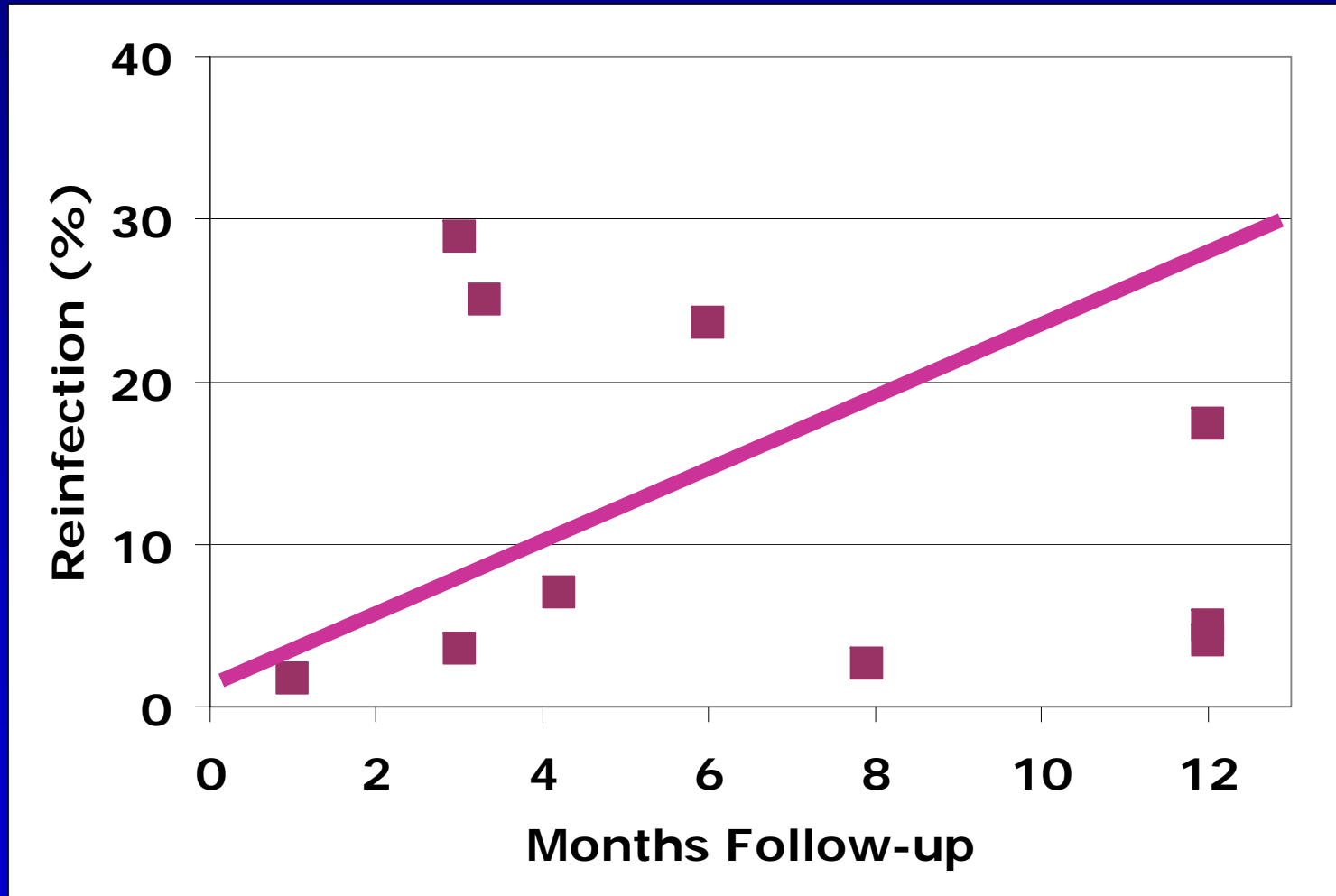
Preventing Re-infection: Partner Management and Re-testing

Reinfection of Women with Chlamydia Within 12 Months of Initial Infection



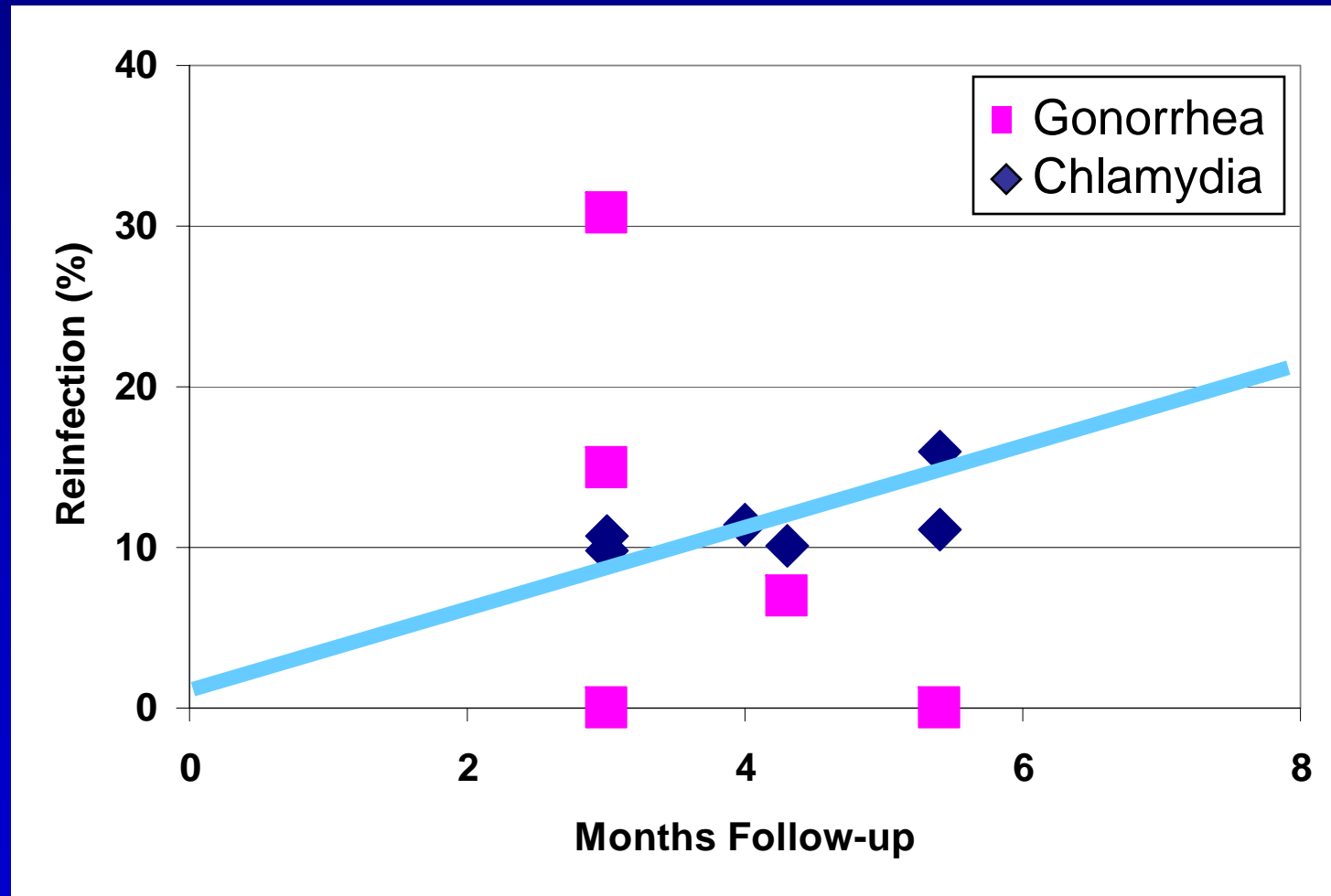
Review of 17 active cohort studies

Reinfection of Women with Gonorrhea Within 12 Months of Initial Infection



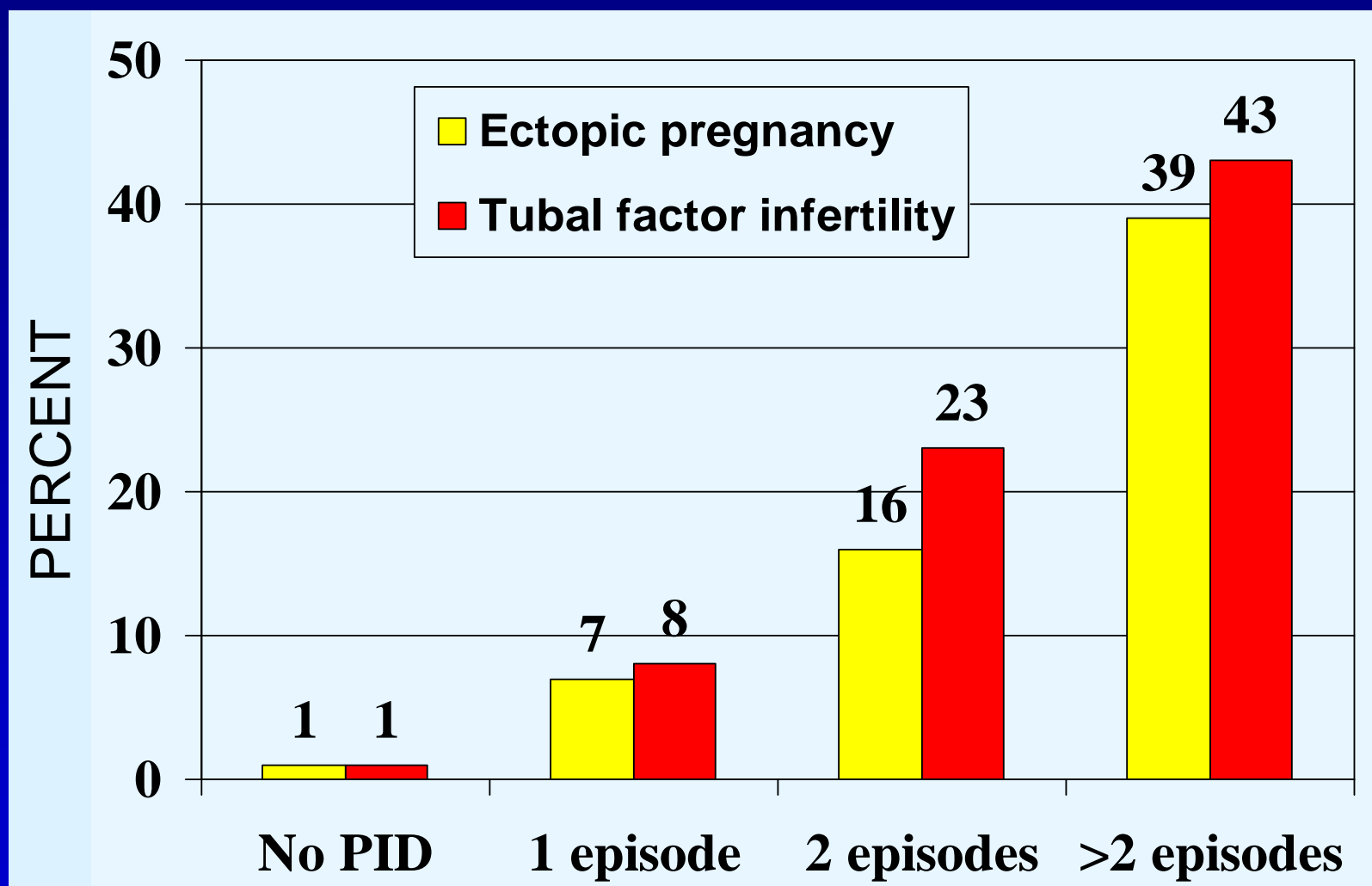
Review of 7 active and passive cohort studies

Reinfection of Men with Gonorrhea and Chlamydia Within 6 Months of Initial Infection



Fung et al. STI 2007

Risk of Ectopic Pregnancy or Tubal Infertility by Number of Episodes of PID



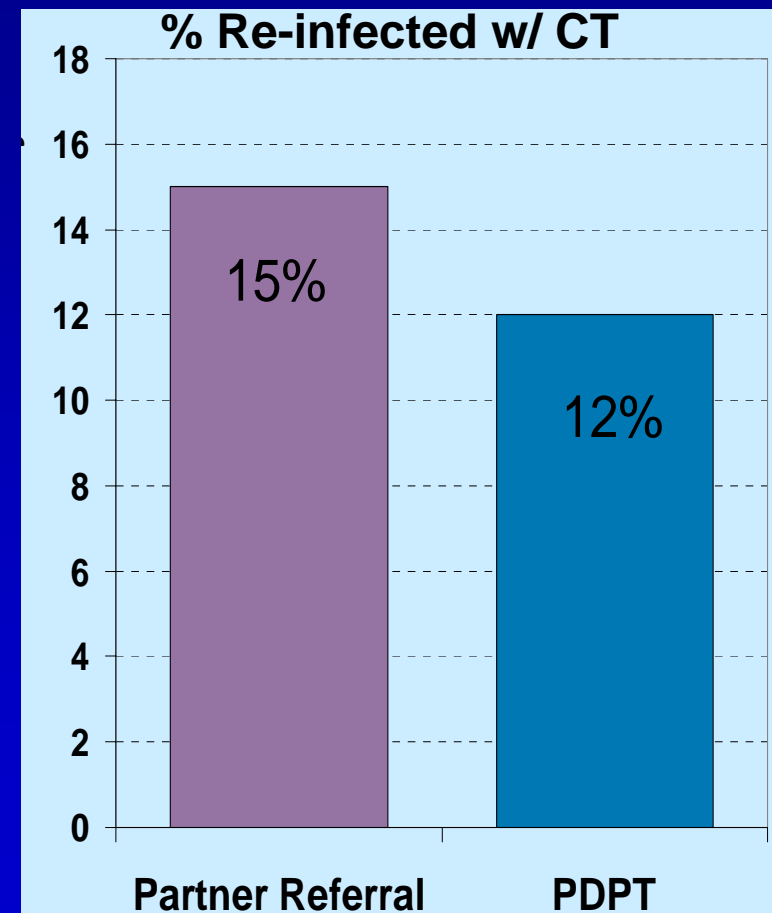
Westrom L. Acta Eur Fertil. 1985;16(1):21-4.

Partner Treatment Options

- Patient referral
- Provider or clinic referral
- Expedited partner therapy (EPT)
- Local health department assistance

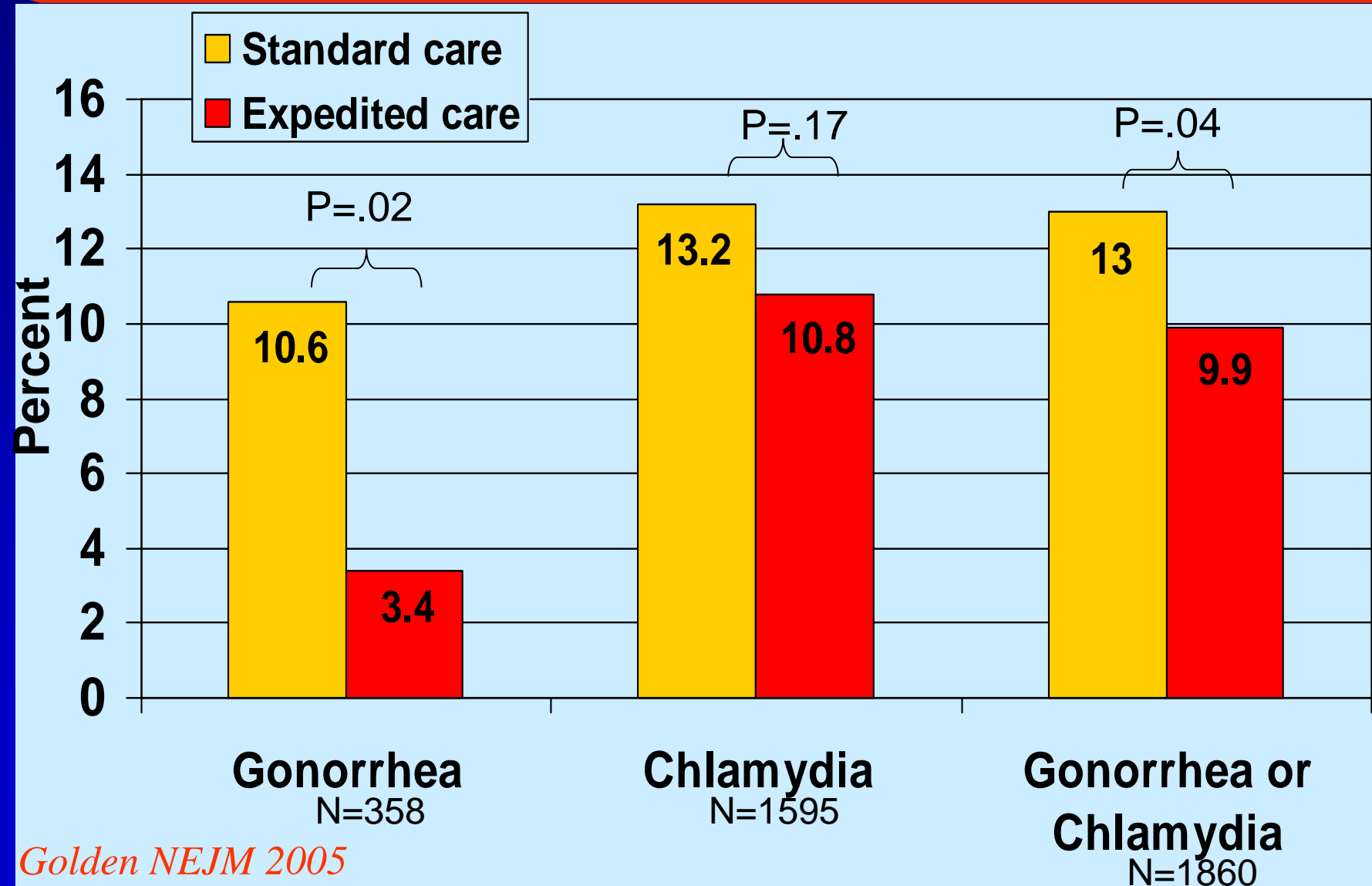
PDPT Clinical Trial: Reinfection Rates by Study Arm

- Multi-center multi-venue randomized clinical trial
- 728 women with uncomplicated CT randomized to PDPT; 726 to patient referral
- Rate of reinfection 20% lower in PDPT group (12% vs 15%, $p=.102$)



Schillinger et al., STD 2003 30:49-56

Infection During Follow-up Among Patients Completing The EPT Trial



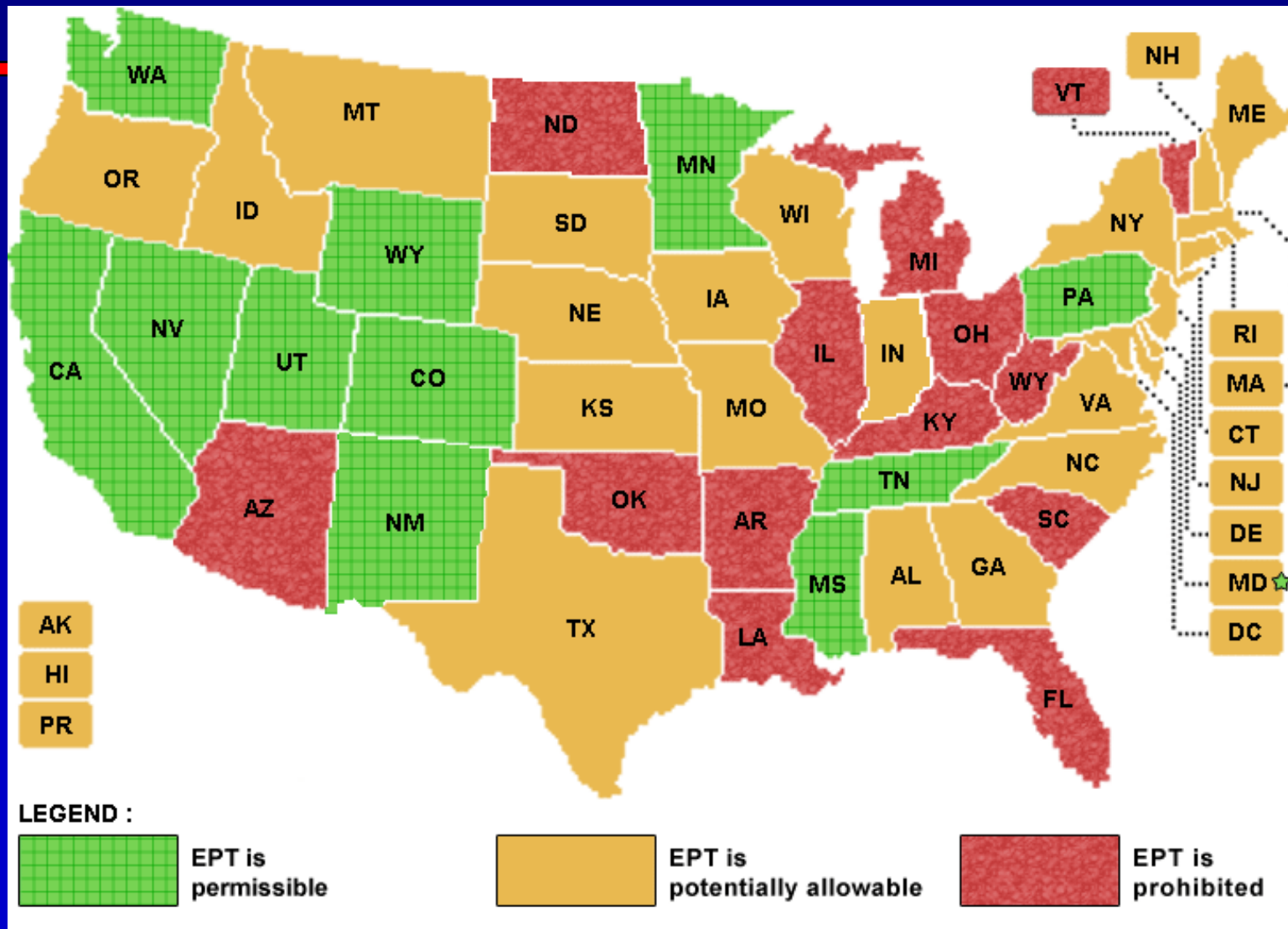
CDC EPT Guidelines

- If concerns exist that sex partners will not seek evaluation and treatment, or if other management strategies are impractical or unsuccessful, then EPT by heterosexual male or female patients to their partners might be an option
- Patient-delivered partner therapy is not routinely recommended for MSM because of a high risk for coexisting infections, especially undiagnosed HIV infection, in their partners

www.cdc.gov/std/ept



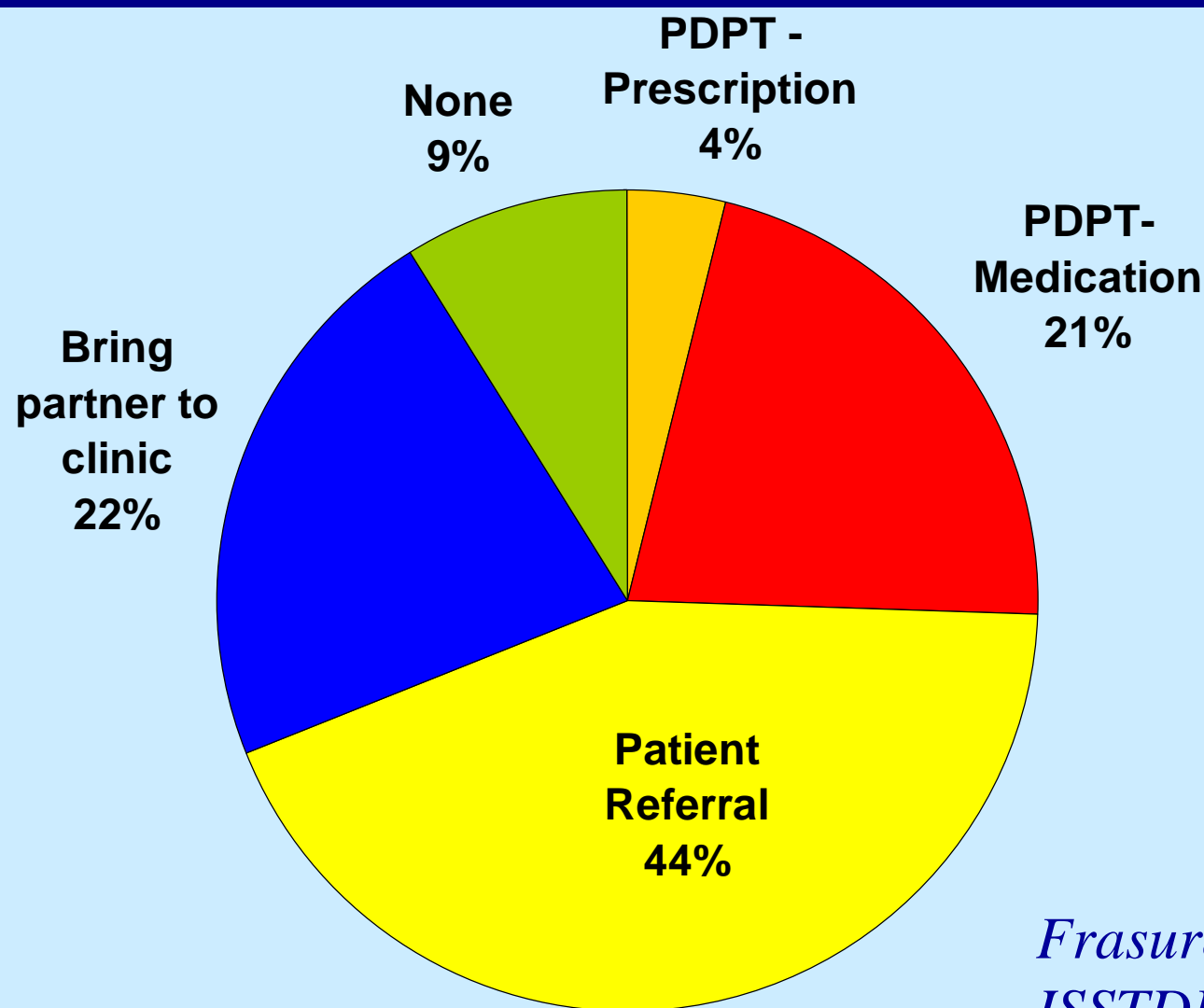
Legal Status of EPT in the U.S.



As of August 2007

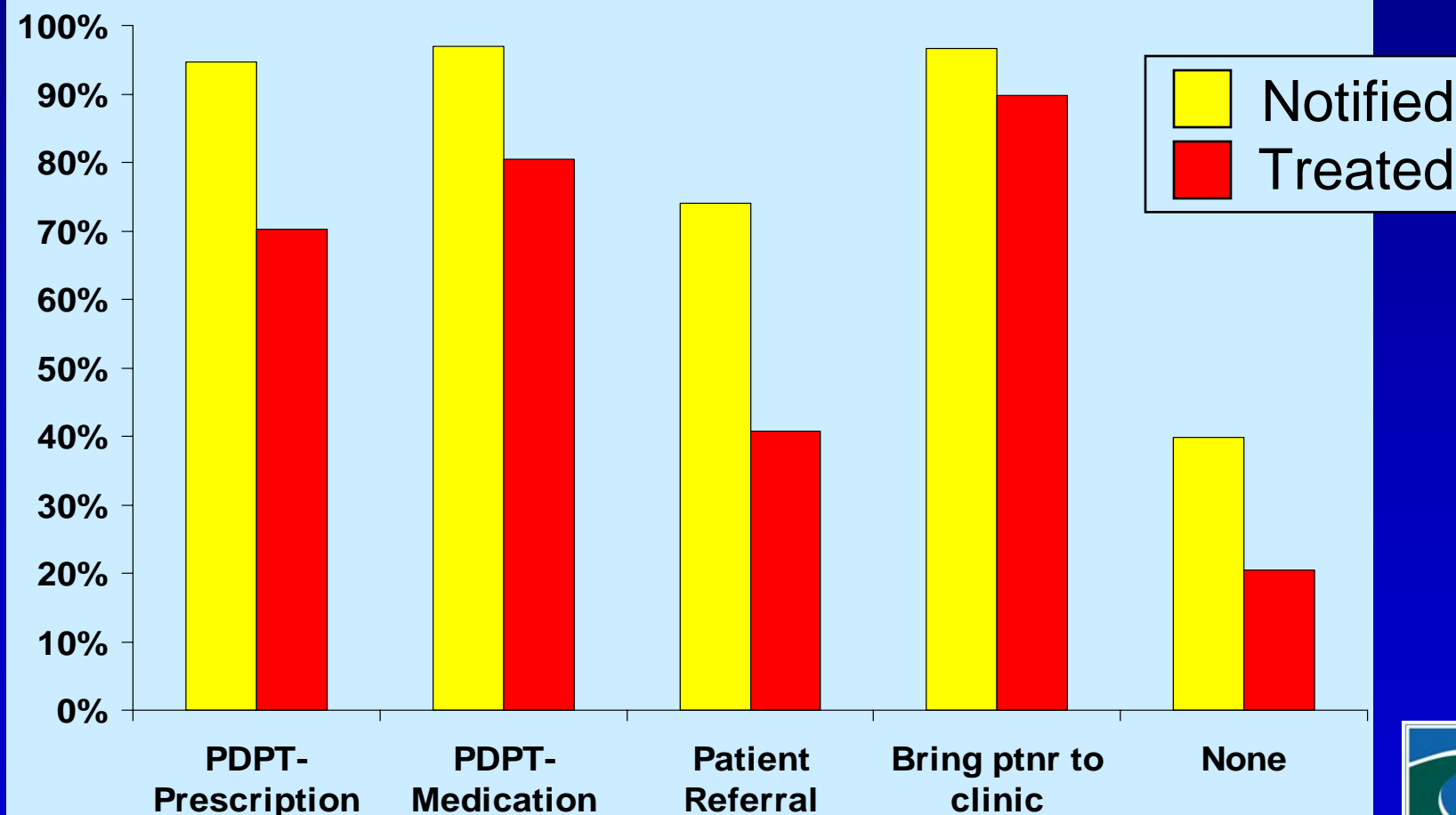
www.cdc.gov/std/ept

Partner Services for CT in California FP Clinics, 2005-2006



*Frasure et al.
ISSTDR 2007*

Proportion of Partners Notified and Treated by Partner Management Strategy



Frasure et al. ISSTD 2007

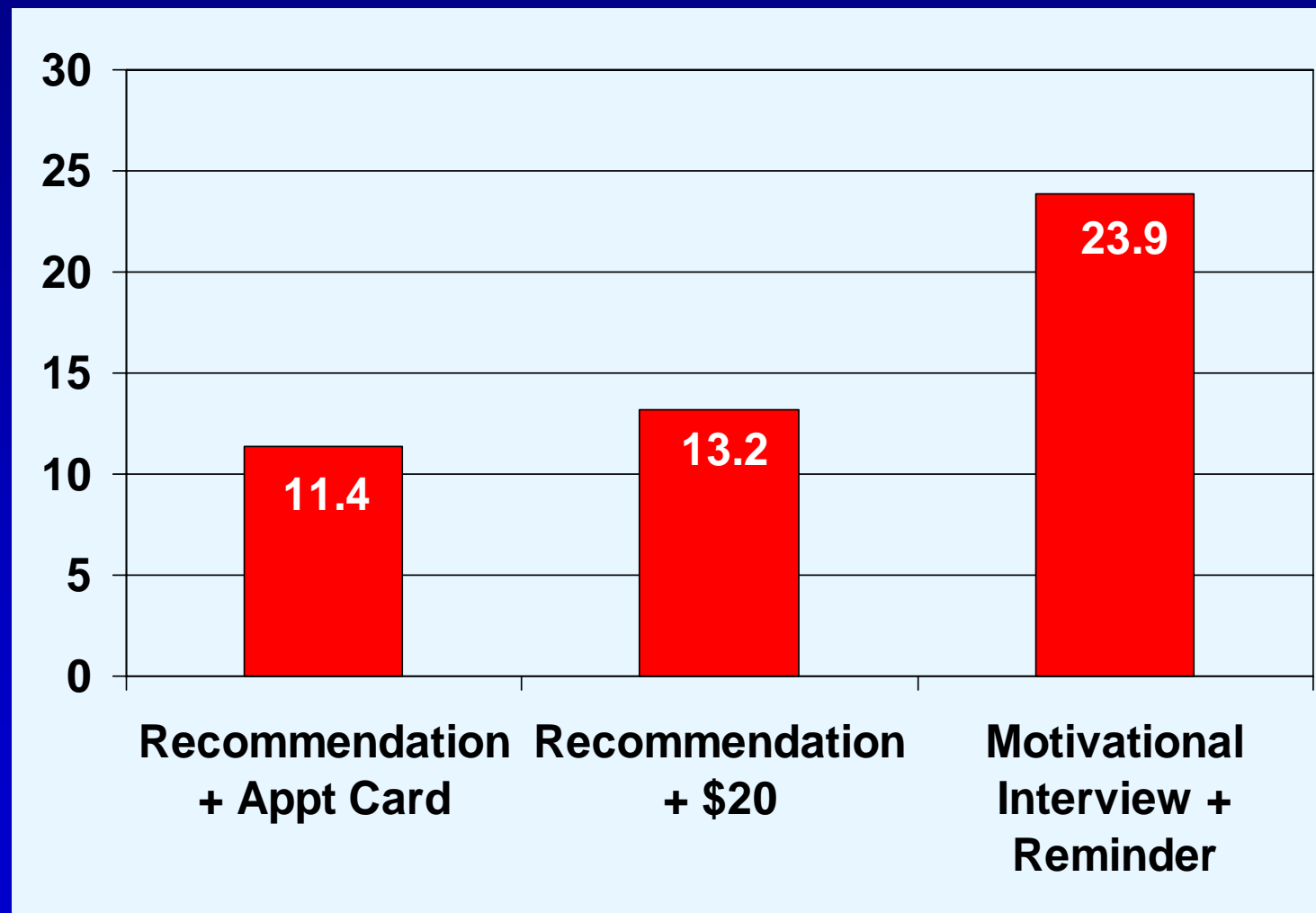
CDC Re-testing Recommendations

- ALL women with chlamydial infection should be retested ~ 3 months after treatment
- Limited data support retesting men with chlamydia
- ALL patients with gonorrhea should be retested ~ 3 months after treatment
- Test regardless of whether the patient believes that their sex partners were treated
- If patients do not seek care in 3 months, re-test within the following 3–12 months

2006 CDC Guidelines

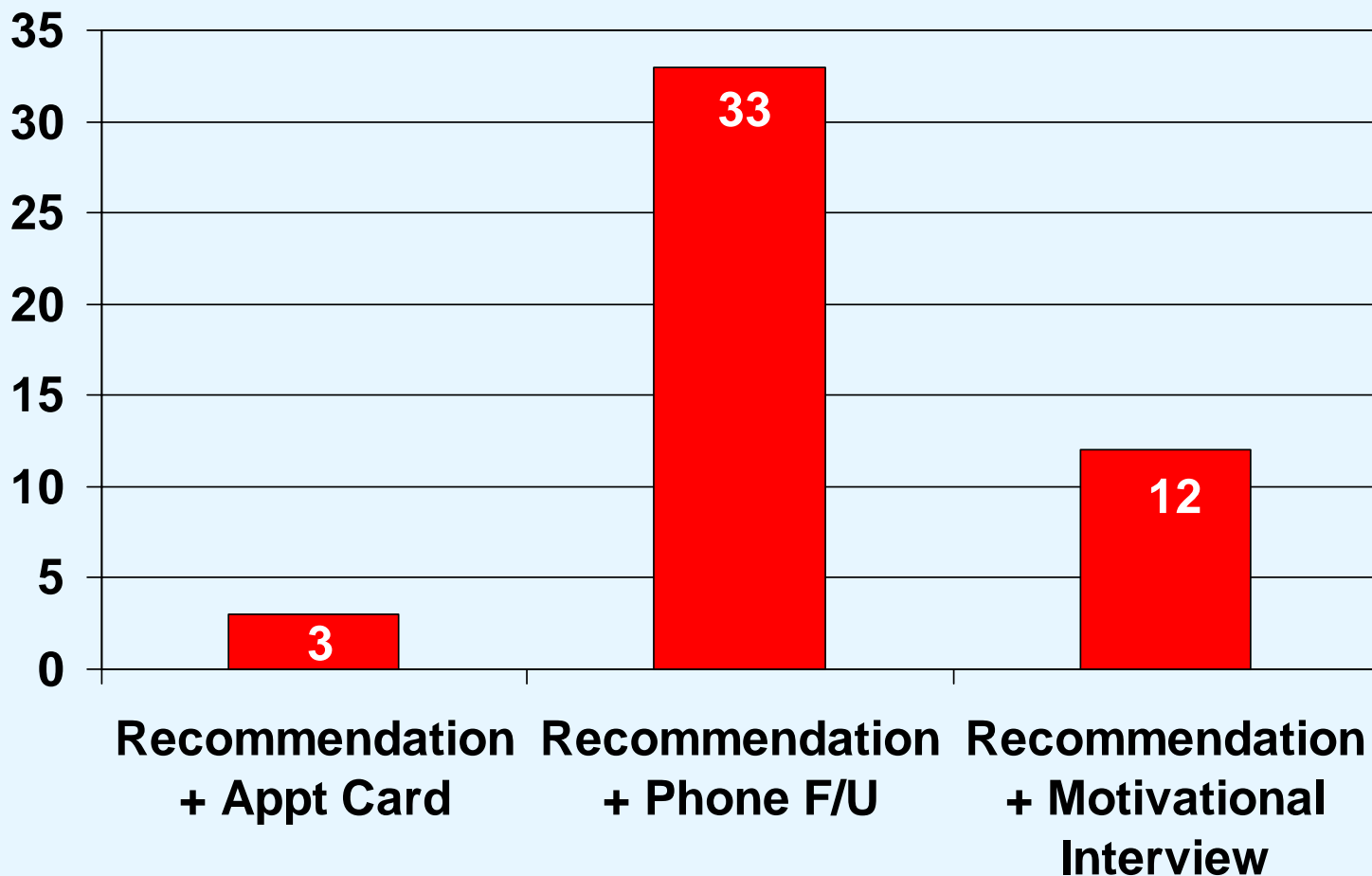


Percent Retested by Strategy: Multi-center RCT to Promote Retesting at 3 Months for Gonorrhea (I)



$P < .05$

Percent Retested by Strategy: Multi-center RCT to Promote Retesting at 3 Months for Gonorrhea (II)



$P < .05$



RCT of Mailed Retesting in Seattle

	Mailed Retesting	Clinic Retesting
Time:	(n=60)	(n=62)
28 Days	27 (45%)	20 (32%)
Re-contact & Offer Mail Retesting to All Subjects		
29-100 days	36 (60%)	35 (56%)

* 61% of those who elected mailed retesting were tested vs. 38% who chose clinic retesting

Source: Golden 2007



Challenges to Retesting at 3 Months

- Unaided, few patients present for retesting just because they are advised to do so
- Telephone follow-up may increase retesting to 30-40%
- Repeated contact may increase to over 50%
- Providers and clinics need to be proactive in ensuring adherence to retesting recommendations

Critical Issues: Chlamydia and Gonorrhea

- Screening
- Proper treatment
- Partner management
- Re-testing 3 months after treatment

Thank You!

